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U.S. DEPARTMENT OF ENERGY FEED MATERIALS PRODUCTION CENTER REMEDIAL INVESTIGATION/FEASIBILITY STUDY COMMUNITY MEETING FEBRUARY 20, 1990

02/20/1990

WMCO PUBLIC
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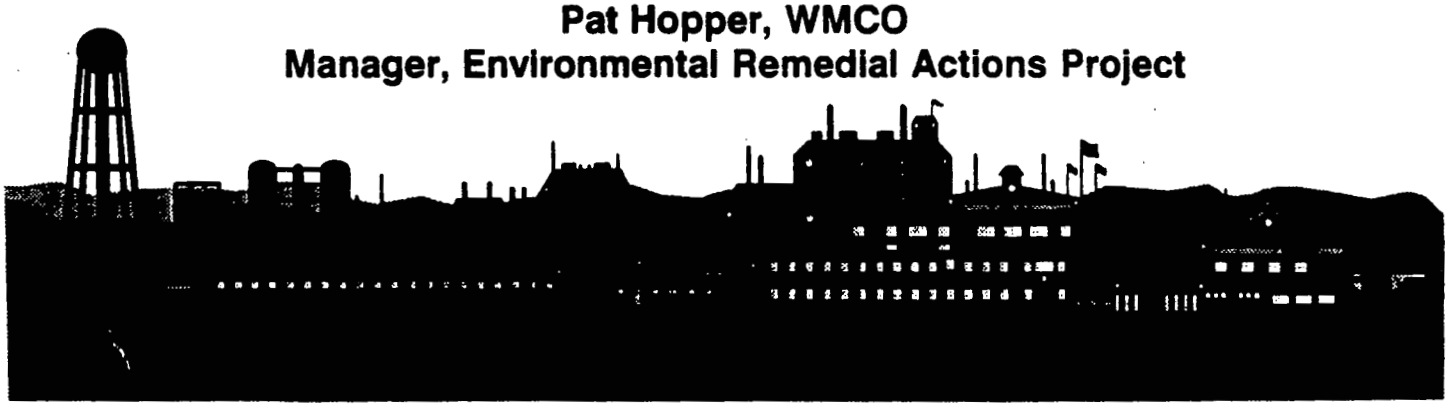
PRESENTATION

U. S. DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER
REMEDIAL INVESTIGATION / FEASIBILITY STUDY

Community Meeting
February 20, 1990

REMOVAL ACTION UPDATE

Pat Hopper, WMCO
Manager, Environmental Remedial Actions Project



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DEFINITIONS

A Removal Action Is a Near-Term Cleanup Which Is Initiated During the Process of Identifying the Ultimate Final Remediation

An Engineering Evaluation/Cost Analysis (EE/CA) Is an Analysis of Alternatives for a Removal Action

STATUS OF FOUR REMOVAL ACTIONS

- Contaminated Water Beneath FMPC Buildings
- Waste Pit Area Storm Water Run-Off Control
- South Plume
- K-65 Silos

WASTE PIT AREA STORM WATER RUN-OFF CONTROL

- Analysis of Alternatives in Progress (EE / CA)
- Regulator and Public Review Expected in May, 1990

SOUTH PLUME REMOVAL ACTION

- Analysis of Alternatives in Progress (EE / CA)
- Regulator and Public Review Expected in April, 1990

CONTAMINATED WATER BENEATH FMPC BUILDINGS

- Three Pumps Installed Inside Plant 6
- 5300 Gallons of Water Removed and Treated
- Boring Program Has Identified Two New Pockets of Water Found Near Plant 9 and Plant 2/3

K-65 SILOS

- Structural Integrity Review
- Risk Assessment
- Alternatives Analysis
- Resampling Plans

K-65 STRUCTURAL INTEGRITY REVIEW: CONCLUSIONS

(Performed by Bechtel National, Inc.)

- Dome Not in Immediate Danger of Collapsing
- Exact Remaining Life of Silos Cannot be Calculated
- Dome Would Likely Collapse if Hit Directly by Tornado
- Confirmed That Contents of Silos and Berms Should be Removed Simultaneously

K-65 RISK ASSESSMENT

(Being Performed by University of Cincinnati)

Focus:

- Probability of Potential Causes of Failure Happening
- Risk to Public Health and Environment

K-65 RESAMPLING PLANS

- Reason For Resampling
- Experienced Sampling Team Established
- Previous Samples Being Analyzed
- Camera Inspection of Contents
- Resampling Using Modified Vibracore Device
- Back-up Method Being Designed

SUMMARY

- Technical Challenge of K-65 Sampling
- Work Plan and Schedule are Achievable

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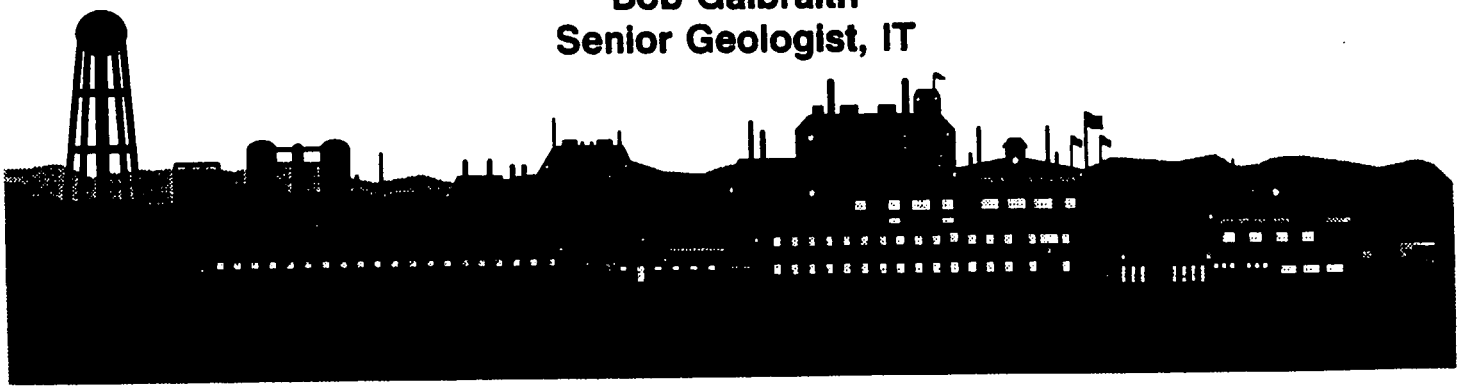
RI / FS UPDATE

Bob Galbraith
Senior Geologist, IT



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FEASIBILITY STUDY UPDATE

REMEDIAL INVESTIGATION UPDATE

PURPOSE

- Provide Update of Field Activities at Suspect Areas, Production Area, and Regional Aquifer
  - Activities
  - Findings
  - Significance
  - Response actions

SUSPECT AREAS INVESTIGATION

- Geophysical and Radiation Walkover Surveys
  - Almost No Anomalies Found
- Trenching Program Completed
- Borings to Be Completed in
  - Waste water treatment area
  - Laboratory equipment burial pits
  - Southfield, Area 1 pits

PRODUCTION AREA INVESTIGATION

- Borings Inside Plant 9 and Pilot Plant
- Data Maps Are Being Prepared For:
  - Water table elevations by month
  - Average uranium in perched water
  - Uranium in soil at five depths

PLANT 2 / 3

Reasons For Boring / Piezometer Placement:

- This Plant Area Processed Soluble Forms of Uranium and Other Radionuclides / Chemicals
- "Acid Brick" Floors May Have Leaked
- The Presence of Floor Drains and Sumps
- The Presence of Large Above-ground Storage Tanks

Expected Findings:

- High Levels of Uranium if Perched Groundwater Is Present
- Possible Presence of Other Radionuclides and Chemicals in Perched Groundwater

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PLANT 2 / 3 (Cont'd)

Significance of Findings:

- Uranium Levels Were Found Where Expected
- Other Radionuclides and Chemicals Detected in Some Piezometers Can Be Related to Nearby Storage or Production Facilities

Follow-Up Actions:

- Continue Data Analysis to Define Any Continuing Releases
- Install Additional Borings / Piezometers, as Appropriate
- Prepare Work Plan to Develop Removal Actions for Perched Groundwater

PLANT 9

- Piezometer Placed in Area Due to Nearby Sump and Likely Presence of Soluble Uranium
- Uranium Concentration: 696,000 ppb in Perched Water
- Likely Cause Is Overflow From Sump

SOUTH PLUME WELLS

Expected Findings:

- Uranium Concentration in Well 2125 up to 200 ppb Due to Proximity to Paddy's Run and Industrial Pumping Wells
- Uranium Concentration in Well 2128 Less Than 30 ppb (West of Main Plume)

Actual Observations:

- Well 2125 = 66 ppb
- Well 3125 = 86 ppb
- Well 2128 = 8 ppb
- Well 3128 = 3 ppb

SOUTH PLUME WELLS (Cont'd)

Significance of Findings:

- Demonstrates Consistency Between Actual Measurements and Model Predictions
  - Confirms current understanding of sources and migration pathways
  - Provides confidence in model
  - Model can be used for predicting future conditions and for evaluating remedial actions
  - Allows definition of final step in field program in this area

SOUTH PLUME WELLS (Cont'd)

- Install Deeper Well at Location 125 to Confirm Bottom of Plume
- Install Well West of Paddy's Run to Confirm Western Limit of Plume
- Improve the Model Based on Latest Findings

SOUTHFIELD WELLS

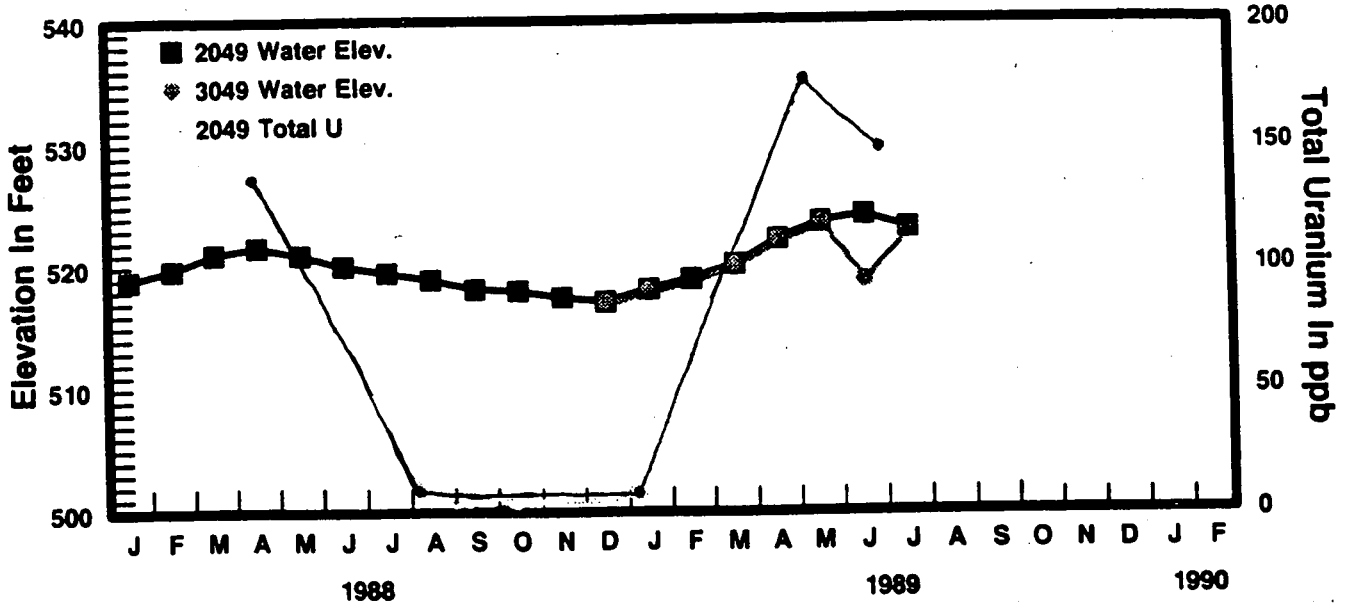
Expected Findings:

- Difficult to Predict - Purpose of Wells Was to Help Resolve Various Uncertainties
- Reasons:
  - Suspected source located nearby in Southfield Area
  - Located at a transition in groundwater flow patterns

ACTUAL OBSERVATIONS

When Sampled	Well 2045	Well 2046
Round 4 (Jan. 1989)	283 ppb	309 ppb
Round 5 (May 1989)	291 ppb	851 ppb
Round 6 (June 1989)	341 ppb	232 ppb

HYDROGRAPH AND TOTAL URANIUM DATA FOR WELL CLUSTER AT LOCATION 049



SOUTHFIELD WELLS (Cont'd)

Significance of Findings:

- **Unusually Large Value in Well 2046 Could Be Due to Extremely Wet Conditions**
- **Presence of a Local Source Not Supported by Recently Completed Southfield Investigation**
- **Source May Be Historic Releases From Paddy's Run**
- **Raises Concern that a Similar Plume May Be Present East of Storm Sewer Outfall Ditch**

SOUTHFIELD WELLS (Cont'd)

Follow-Up Actions:

- **Deeper Wells Will Be Installed Here to Determine the Depth of Uranium Contamination**
- **Additional Monitoring Wells Will Be Installed South of These Wells to Evaluate the Theory of Historic Sources in Paddy's Run**
- **Additional Wells Will Be Installed East of the Storm Sewer Outfall Ditch in Case a Similar Plume Originated From the Ditch and Flowed Eastward**

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